



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,556	12/11/2003	Michael J. Aarnio	EH-10966 (03-436)	8761
34704	7590	07/18/2007		
BACHMAN & LAPOINTE, P.C. 900 CHAPEL STREET SUITE 1201 NEW HAVEN, CT 06510			EXAMINER NDUBIZU, CHUKA CLEMENT	
			ART UNIT 3749	PAPER NUMBER
			MAIL DATE 07/18/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/733,556	Applicant(s) AARNIO ET AL.	
	Examiner Chuka C. Ndubizu	Art Unit 3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on through 6/28/2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>020507, 062807</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

Receipt of applicant's amendment filed May 14, 2007 is acknowledged.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
-
1. Claims 1-3, 5, 6, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunter 5,494,004 in view of DeMart 2,668,978. Hunter teaches the invention as claimed (see figs. 1-12), an apparatus for cleaning a surface within a vessel, (claim 1) the apparatus supported at least partially above a support surface and comprising, an elongate combustion conduit 21, 31 extending from an upstream end 103 to a downstream end 35 associated with an aperture 81 in a wall of the vessel 83 and positioned to direct a shock wave toward said surface (column 6 line 47, 48); a

Art Unit: 3749

guide member 157, 155 on the support surface 161; support assembly 121, 131, 151, 153 supporting the combustion conduit at a plurality of locations along a length of the combustion conduit and engaging the at least one guide member (see fig 1); the support assembly comprising a trolley 131, 151, 153 155, having first and second pair of wheels 155 (front and rear, see fig 1) (claim 2) wherein the at least one guide member comprises at least one track 157; and each support assembly has at least one said wheel 155 engaging the at least one track (fig 1); (claim 3) wherein the at least one track comprises first and second spaced-apart rails (157 on both sides in Fig 5); and each said at least one pair of wheels being first and second spaced-apart wheels (155 on both sides in Fig. 5); (claim 5, 10) wherein the combustion conduit comprises a plurality of separable segments (103 to 105, 105 to 25 and 25 to 35); and the segments are supported atop a single associated trolley; (claim 6) the apparatus further comprising, a fuel 261 and oxidizer 253A source coupled to the combustion conduit to deliver a charge to the conduit; and an igniter 235 positioned to ignite the charge to cause a deflagration-to-detonation transition for generating the shock wave (column 6 57-59 and column 4 line 51-57); the apparatus further comprising a plurality of separable segments 21, 31; (claim 11) wherein the combustion conduit comprises a plurality of separable segments secured end-to-end (fig 1-3).

However, Hunter does not teach a plurality of support assemblies comprising a plurality of trolleys.

DeMart discloses a retractable soot blower (fig 1-4) comprising a plurality of segments (right side and left side in fig 1) each segment supported by an associated

trolley of a plurality of trolleys (40 and unit comprising 16, 18, 22, 20); plurality of support assemblies comprising the plurality of trolleys in fig 1.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Hunter's apparatus by including all the limitations taught by DeMart and recited above in order to provide an apparatus that is rugged and would prevent the sagging of blower lance tubes as taught by DeMart (column 1 line 41-46).

2. Claims 8, 9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunter. Hunter teaches the invention as claimed and as discussed above.

However, Hunter does not teach an apparatus for cleaning a surface wherein plurality of apparatus are positioned at a given level of the vessel and oriented parallel to each other, wherein the combustion conduit comprises a plurality of double flanged segments secured end-to-end.

Having a plurality of cleaning apparatus at a given level of the vessel, oriented parallel to each other is an obvious variation over Hunter. Hunter teaches a single cleaning apparatus at a given level of the vessel 83 (fig 1). Therefore this is a mere duplication of part, which will not produce any new and unexpected result. *In re Harza*, 274 F.2d 699, 124 USPQ 378 (CCPA 1960).

With regard to claim 12, the Examiner takes official notice of the fact that having flanges on both ends of a pipe in order to secure them together is a well-known engineering practice. For example sewage pipes are connect by flanges on both ends. Also see fig 2 of U.S patent of Heering 5,950,572 (soot blower).

Art Unit: 3749

3. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hunter in view of Heering 5,950,572. Hunter teaches the invention as claimed and as discussed above except for the apparatus comprising a resilient member coupling the combustion conduit to the wall.

Heering teaches in a soot blower device, resilient members (spring, O-ring) coupling the combustion conduit to the wall (column 3 line 25-27).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Hunters apparatus by including a resilient member in order to provide a vertical and horizontal freedom of movement as taught by Heering (column 2 line 26,27).

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 1 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/733,544. Claim 1 of Application 10/733,544 recites "an elongate combustion conduit extending from an upstream end to a downstream end associated with an aperture in a wall of the vessel and positioned to direct a shock wave toward said surface; and means for movably supporting the combustion conduit at one or more locations along a length of the combustion conduit". Claim 1 of the current application recites "an elongate combustion conduit extending from an upstream end to a downstream end associated with an aperture in a wall of the vessel and positioned to direct a shock wave toward said surface; a guide member on the support surface; and a plurality of support assemblies supporting the combustion conduit at a plurality of locations along a length of the combustion conduit and engaging the at least one guide member, each support assembly comprising a trolley having first and second pairs of wheels."

Examiner reads the "means for movably supporting the combustion conduit at one or more locations along a length of the combustion conduit" to be "a guide member on the support surface; and a plurality of support assemblies supporting the combustion conduit at a plurality of locations along a length of the combustion conduit and engaging the at least one guide member, each support assembly comprising a trolley having first and second pairs of wheels", since it is not clear whether (means plus function) in claim 1 of Application 10/733,544 refers to figure 2 or to figure 6.

Claim 1 of the current application is rejected since it is anticipated by claim 1 of Application 10/733,544.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

Applicant's arguments filed May 14 2007 have been fully considered but they are not persuasive. Applicant's argument traversing the provisional double patenting rejection of current claim 1 as being unpatentable over claim 1 of application 10/733,544 on the grounds that a proper interpretation of claim 1 of Application 10/733,544 has not been made has been fully considered. Examiner notes that the means + function language in claim 1 of 10/733,544 is ambiguous. It is not clear whether "means for movably supporting the combustion conduit at one or more locations along a length of the combustion conduit" refers to fig 2 or to fig 6. For the purposes of examination, Examiner reads "means for movably supporting the combustion conduit at one or more locations along a length of the combustion conduit" to be "a guide member on the support surface; and a plurality of support assemblies supporting the combustion conduit at a plurality of locations along a length of the combustion conduit and engaging the at least one guide member, each support assembly comprising a trolley having first and second pairs of wheels". On the basis of this, the two claims are identical and a proper rejection has been made.

Applicant's arguments with respect to claims 1-4 and 6 have been considered but are moot in view of the new ground(s) of rejection. Claims 1-3, 5, 6, 10 and 11 are now rejected under 35 U.S.C. 103(a) as being unpatentable over Hunter in view of DeMart.

Art Unit: 3749

DeMart discloses a plurality of support assemblies comprising a plurality of trolleys including a plurality of pairs of wheels as discussed above.

Applicant's argument traversing the rejection of current claim 7 has been considered but was not found persuasive because of new grounds for rejection. Claim 7 recites a "resilient member" and Heering teaches two resilient members, a spring and an o-ring (column 3 line 25-27). One of the resilient members can be used to modify Hunter in order to provide a vertical and horizontal freedom of movement as taught by Heering (column 2 line 26,27).

Therefore, Applicant's claims do not distinguish Applicant's invention over the prior art of record.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of


Art Unit: 3749

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuka C. Ndubizu whose telephone number is 571-272-6531. The examiner can normally be reached on Monday - Friday 8.30 - 4.30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve McAllister can be reached on 571-272-6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Chuka C. Ndubizu
Patent Examiner
Au 3749


JOSIAH C. COCKS
PRIMARY EXAMINER

20070711